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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,133	01/12/2005	Cornelis Johannes Denissen	DE 020175	6806

24737 7590 06/29/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER
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HINES, ANNE M

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/521,133	<b>Applicant(s)</b> DENISSEN ET AL.	
	<b>Examiner</b> Anne M. Hines	<b>Art Unit</b> 2879	

-- Th **MAILING DATE** of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,7,10 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment filed on April 11, 2006, has been entered and acknowledged by the Examiner.

Claims 1-12 are pending in the instant application.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heuvelmans et al. (US 6137225) in view of Krefft (GB 733,853) (of record).

Regarding claims 1 and 7, Heuvelmans teaches a low-pressure gas-discharge lamp equipped with a gas-tight discharge vessel that contains a gas filling, with electrodes for maintaining a gas discharge in the discharge vessel (Fig. 1; Column 1, lines 5-18), at least one of which electrodes is arranged inside the discharge vessel and comprises a coil (Fig. 1, 6a; Fig. 2, 6a & 60a; Column 3, line 52) having a coating of an electron-emitting material (Column 3, lines 52-54) and current feeds with a means for igniting and maintaining a gas discharge (Fig. 2, 7a & 7a'; Column 3, lines 9-10), and wherein the coil has a first end region connected to a first current feed (Fig. 2, 62a;

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Column 3, lines 52-59), a second end region connected to a second current feed (Fig. 2, 62a'; Column 3, lines 52-59) and a central region between the first end region and the second end region (Fig. 2, 61a; Column 3, lines 52-54), and wherein the coating of the electron-emitting material is arranged exclusively within the central region of the coil (Column 3, lines 52-67). Heuvelmans fails to disclose wherein the coil comprises a core made from a first refractory metallic material that has a first electronegativity and a surrounding winding made from a second refractory metallic material that has a second electronegativity and the electron-emitting material is arranged between the core and winding.

In the same field of endeavor of electrodes with electron-emitting coatings for gas-discharge lamps, Krefft teaches an electrode comprising a coil (Column 2, lines 64-79) having a core made from a first refractory metallic material that has a first electronegativity (Figs. 1-6, 1-4; Column 3, lines 29-33), a surrounding winding made from a second refractory metallic material that has a second electronegativity (Figs. 1-6, 5; Column 3, lines 29-33), and a coating of an electron-emitting material arranged between the core and the winding (Fig. 3, 8; Column 3, lines 45-54) in order to protect the electron-emitting material from the direct action of the discharge arc (Column 3, line 54 to Column 4, line 73).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of Heuvelmans to have the electrode structure of Krefft including a core of a first refractory metal and a surrounding winding of a second refractory metal with the

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electron-emitting material arranged between the core and the winding in order to protect the electron-emitting material from the direct action of the discharge arc.

Regarding claims 4 and 10, Krefft further discloses wherein the core is molybdenum (electronegativity=2.16) and the coil is tungsten (electronegativity=2.36) (Column 3, lines 29-33). Motivation to combine is the same as for claims 1 and 7 respectively.

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heuvelmans et al. (US 6137225) and Krefft (GB 733,853) (of record) in view of Ruigrok (US 5742125) (of record).

Regarding claims 6 and 12, Heuvelmans and Krefft teach the invention of claim 1, but fail to teach wherein the coating of an electron-emitting material contains a polymeric multiple barium tungstate. In the same field of endeavor of electron-emitting materials for discharge lamp electrodes, Ruigrok teaches an electron-emitting material contains a polymeric multiple barium tungstate (Column 4, lines 13-15) in order to reduce the work function of the electrodes (Column 1, lines 21-24). Ruigrok teaches the suitability of using barium tungstate for the emitting-material of the electrode.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the emitting material of the electrode be barium tungstate, as disclosed by Ruigrok, in order to reduce the work function of the electrodes and to choose from one of the materials disclosed by Ruigrok, since Ruigrok teaches the

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suitability of using an emitting material formed of barium tungstate and it has been held to be within the general skill of an artisan to select a known material on the basis of the intended use. See MPEP 2144.07.

### ***Allowable Subject Matter***

Claims 2-3, 5, 8-9, and 11 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne M. Hines whose telephone number is (571) 272-2285. The examiner can normally be reached on Monday through Friday from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anne M Hines  
Patent Examiner  
Art Unit 2879

*AmH*  
*6/21/06*

*MS*  
**MARICELI SANTIAGO**  
**PRIMARY EXAMINER**